

No 26


9<sup>th</sup>

149 Auth 9<sup>th</sup> Trust.

An (G.D.)  
Inaugural Dissertation  
on  
Sesquius. *Sept March 5<sup>th</sup>*  
1828

for -  
The degree of Doctor of Medicine  
at the  
University of Pennsylvania

By  
Airam Corson  
of

Pennsylvania - 

Handwritten text, likely bleed-through from the reverse side. The words are difficult to decipher but appear to include "C. de", "Handwritten", and "et".

Handwritten text, likely bleed-through from the reverse side. The words are difficult to decipher but appear to include "Handwritten" and "et".

Handwritten text, likely bleed-through from the reverse side. The words are difficult to decipher but appear to include "Handwritten" and "et".

To the Professors of the University of

Pennsylvania

This Dissertation on the nature  
cause and Treatment of  
Tetanus

is most respectfully inscribed, as  
a slender tribute of thanks, for  
the many useful and instruc-  
tive lessons received from

them, by the

Author



1  
Tetanus

This disease, as defined by most authors, is a greater or less contraction of the muscles of the whole body, with tension, and rigidity of the parts affected. It is divided into four species, distinguished by appellations which express rather the different inflexions of the body, than any variety with respect to the disease itself. It is called Trismus when confined to the muscles of the jaws and neck, Emprosthotonus when the body is bent forward, Opisthotonus when it is bent backwards, and Tetanus when the whole body becomes stiff, and preserves its ordinary rectitude. There is also another species of this disease, mentioned by some writers, in which one side of the body only is affected by spasm, which, consequently, bends the body to the side affected. This is called Tetanus Lateralis or Pleurosthotonus, it is very rarely seen. Tetanus may occur in every

climate,  
his, in  
and see  
and m  
To attack  
permanen  
like the  
more tha  
more tha  
states, the  
-urrence,  
some wha  
ting coo  
years ex  
to the co  
I not con  
they have  
it.

Tetanus  
then, com

climate, but it occurs mostly in warm countries, in the warmest seasons of those countries and seems to be materially assisted by cold and moisture suddenly succeeding great heat. It attacks people of all ages, sexes, and temperaments, but the middle aged seem more liable than either the old or young, males more than females, the strong and vigorous more than the feeble. In the southern states, this disease is of middling frequent occurrence, but here, it must be considered somewhat rare; many practitioners not meeting with a single case during many years extensive practice. This disease agreeably to the writings of Doctors Rush and Mosely, is not confined exclusively to the human species, they having seen horses that were affected by it.

### Symptoms

Tetanus occurs sometimes suddenly and is then, commonly, very violent. It more fre-

presently  
usually a  
low the  
we on  
as it is  
the fire  
-ation  
gotten  
is left  
broken  
into the  
affected  
the disea  
should  
back  
and to  
tingly  
on the  
as to be  
be care  
occurs.



quently, however, comes on slowly, and gradually advances to a state of great violence. In the latter case, a slight stiffness is perceived or felt at the back of the neck, which as it increases, causes pain and prevents the free motion of the head; an uneasy sensation is soon perceived at the root of the tongue, followed by difficulty of deglutition; a tightness is felt across the chest, and a pain at the lower end of the sternum shooting through into the back, the muscles of the jaws become affected and keep them firmly closed, and the disease may now be termed Trismus.

Should the disease proceed, the muscles of the back become affected, so as to draw the neck and trunk of the body backwards, constituting Opisthotonus. If on the contrary the muscles on the front of the body had been affected, so as to bend the body forwards, it would have been called Emprosthotonus. - but this seldom occurs. The abdominal muscles are mostly

the first of these is the fact that the  
the second is the fact that the  
the third is the fact that the  
the fourth is the fact that the  
the fifth is the fact that the  
the sixth is the fact that the  
the seventh is the fact that the  
the eighth is the fact that the  
the ninth is the fact that the  
the tenth is the fact that the  
the eleventh is the fact that the  
the twelfth is the fact that the  
the thirteenth is the fact that the  
the fourteenth is the fact that the  
the fifteenth is the fact that the  
the sixteenth is the fact that the  
the seventeenth is the fact that the  
the eighteenth is the fact that the  
the nineteenth is the fact that the  
the twentieth is the fact that the  
the twenty-first is the fact that the  
the twenty-second is the fact that the  
the twenty-third is the fact that the  
the twenty-fourth is the fact that the  
the twenty-fifth is the fact that the  
the twenty-sixth is the fact that the  
the twenty-seventh is the fact that the  
the twenty-eighth is the fact that the  
the twenty-ninth is the fact that the  
the thirtieth is the fact that the  
the thirty-first is the fact that the  
the thirty-second is the fact that the  
the thirty-third is the fact that the  
the thirty-fourth is the fact that the  
the thirty-fifth is the fact that the  
the thirty-sixth is the fact that the  
the thirty-seventh is the fact that the  
the thirty-eighth is the fact that the  
the thirty-ninth is the fact that the  
the fortieth is the fact that the  
the forty-first is the fact that the  
the forty-second is the fact that the  
the forty-third is the fact that the  
the forty-fourth is the fact that the  
the forty-fifth is the fact that the  
the forty-sixth is the fact that the  
the forty-seventh is the fact that the  
the forty-eighth is the fact that the  
the forty-ninth is the fact that the  
the fiftieth is the fact that the  
the fifty-first is the fact that the  
the fifty-second is the fact that the  
the fifty-third is the fact that the  
the fifty-fourth is the fact that the  
the fifty-fifth is the fact that the  
the fifty-sixth is the fact that the  
the fifty-seventh is the fact that the  
the fifty-eighth is the fact that the  
the fifty-ninth is the fact that the  
the sixtieth is the fact that the  
the sixty-first is the fact that the  
the sixty-second is the fact that the  
the sixty-third is the fact that the  
the sixty-fourth is the fact that the  
the sixty-fifth is the fact that the  
the sixty-sixth is the fact that the  
the sixty-seventh is the fact that the  
the sixty-eighth is the fact that the  
the sixty-ninth is the fact that the  
the seventieth is the fact that the  
the seventy-first is the fact that the  
the seventy-second is the fact that the  
the seventy-third is the fact that the  
the seventy-fourth is the fact that the  
the seventy-fifth is the fact that the  
the seventy-sixth is the fact that the  
the seventy-seventh is the fact that the  
the seventy-eighth is the fact that the  
the seventy-ninth is the fact that the  
the eightieth is the fact that the  
the eighty-first is the fact that the  
the eighty-second is the fact that the  
the eighty-third is the fact that the  
the eighty-fourth is the fact that the  
the eighty-fifth is the fact that the  
the eighty-sixth is the fact that the  
the eighty-seventh is the fact that the  
the eighty-eighth is the fact that the  
the eighty-ninth is the fact that the  
the ninetieth is the fact that the  
the ninety-first is the fact that the  
the ninety-second is the fact that the  
the ninety-third is the fact that the  
the ninety-fourth is the fact that the  
the ninety-fifth is the fact that the  
the ninety-sixth is the fact that the  
the ninety-seventh is the fact that the  
the ninety-eighth is the fact that the  
the ninety-ninth is the fact that the  
the hundredth is the fact that the

vibrantly  
of the de  
tunities  
the Heron  
affection,  
complex  
are also  
least po  
spread  
two or  
place in  
abandonment  
again a  
according  
-ting ca  
to the res  
cause.  
an atten  
piece is  
in the  
that, some

violently contracted even in opisthotonus.  
If the disease advances, the muscles of the ex-  
trinites become affected and extend them,  
the flexors of the head and trunk become now  
affected, so as to straighten the <sup>back</sup> and constitute  
complete tetanus. The spasms in this disease  
are almost ~~always~~ accompanied with vio-  
lent pain, but, the extreme violence of the  
spasm does not usually last more than  
two or three minutes, when a relaxation takes  
place in a slight degree with a proportionate  
abatement of the pain, but it commonly occurs  
again every ten, fifteen or twenty minutes,  
according as the <sup>attack</sup> is violent, or the exci-  
ting causes applied, although it seems often  
to be renewed without any, evident exciting  
cause. Fever is sometimes, though not always,  
an attendant of spasm in this disease. The  
pulse is commonly, moderate, and regular  
in the <sup>interstices</sup> of the spasm, though ~~often~~ <sup>it is</sup> ~~not~~ <sup>not</sup>  
that, sometimes even the spasms are <sup>intermittent</sup>.

sent  
 than no  
 de. in  
 there a  
 stood, a  
 present  
 worst  
 Thomas  
 the dia  
 to come  
 and in  
 then so  
 in mind  
 "and, a  
 strange  
 nothing  
 construct  
 be sent  
 as the  
 gem, it  
 up a

violent, the pulse is more "full" and more frequent than natural. Blood drawn in this disease seldom shows signs of inflammation. The excretions are commonly suppressed, especially the stools, violent constipation nearly always being present. The respiration is commonly difficult, probably on account of the contraction of the thoracic muscles and confined situation of the diaphragm. Lorry in his treatise on traumatic tetanus says, "the heart is wound and becomes rigid in the same manner as other muscles and thus causes an imperfect circulation." That the heart, being a muscular organ, should be affected by spasm is no way strange, but I am induced to believe, that although it may be affected with spasmodic contractions, that those contractions are not so violent, nor of so long continuance, as those under which the external muscles suffer; for, it appears to be necessary, in order to keep up a circulation through the arteries, that as

sp. n. ab.  
in "The  
L. n. b.  
agreed to  
the  
for a S.  
and a  
the article  
the pulso  
to be  
S. -  
the ston  
from  
more L.  
a  
variation  
results,  
can  
among  
than  
done  
the

soon as the heart has contracted upon the blood  
 in the ventricle, and expelled it, a relaxation  
 soon takes place that the ventricle may  
 again be filled. It is supposed now that the  
 heart is, and in a state of violent contraction  
 for a single minute, would there not be in this  
 case a total stop of the flow of the blood into  
 the arteries from the heart, and would not  
 the pulsations at the wrist cease? If these things  
 would take place when the heart was in the  
 state supposed above, surely it cannot be in  
 that state in tetanus; as Cullen says that the  
 pulse is sometimes in cases of extreme mor-  
 more full than natural; and other writers agree,  
 in saying, that it is continued with but little  
 variation in point of number from what it is in  
 health. To proceed with the symptoms, there is  
 commonly in the commencement nausea, and  
 empty of stomach, the heat of the body is some-  
 times increased, at others moderate, a cold sweat  
 sometimes breaks out on the face, and limbs,  
 the urine, though sometimes voided with diffi-

-ficitude,  
 in the  
 in, and  
 change  
 and 11  
 were in  
 that is  
 the state  
 in general  
 will to  
 a per  
 for acting  
 the brain  
 as to des  
 inments  
 symptoms  
 and  
 -re near  
 means of  
 method  
 and, the



scarcely, and deficient in quantity, is not sufficient  
for the respiration is sometimes entirely stopped  
or, and the patient suffers the most intolerable  
anguish. Every organ of voluntary motion  
seems now to be affected, the eye is immovably  
fixed in its socket the countenance of the pa-  
tient is hideous and distorted, and while in  
this state the strength fails, the pulse becomes  
irregular, and one universal convulsion puts an  
end to the life of the patient, who often is in a  
full possession of his mental faculties, as to be  
perfectly sensible of the fate which awaits him  
the vision in this disease, becoming so disordered  
as to destroy judgment, only in the very last  
moments of life - In traumatic tetanus the  
symptoms of the early stage are somewhat dif-  
ferent. The wound if suppurated has com-  
menced ceasing to discharge pus, the wound ceases  
to bleed, first of a red, then of a  
mottled colour; the whole limb becomes pain-  
ful, the wound inflames, convulsions with

transp

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

trans

cramps ensue the muscles of the jaws and throat become suddenly or gradually affected, and the disease goes on as usual. It sometimes comes on after the diseased part has healed. Tetanus from punctures or lacerated wounds is the most common kind.

#### Causes

Cold has long been considered as a cause of tetanus, and, is said to act more powerfully when combined with moisture. As cold is a negative agent it acts in an indirect manner. When long continued it produces its effects principally by inducing debility which favours the action of exciting causes. When applied suddenly, and with some force, it, probably, acts as an exciting cause, by diminishing the excitement, as to induce convulsive action. Heat has long been considered as having a material influence in producing tetanus, and this was ascribed by Doctor Rush to its debilitating effects, that heat does produce debility almost any one can

1. *monica*  
 2. *monica*  
 3. *monica*  
 4. *monica*  
 5. *monica*  
 6. *monica*  
 7. *monica*  
 8. *monica*  
 9. *monica*  
 10. *monica*  
 11. *monica*  
 12. *monica*  
 13. *monica*  
 14. *monica*  
 15. *monica*  
 16. *monica*  
 17. *monica*  
 18. *monica*  
 19. *monica*  
 20. *monica*  
 21. *monica*  
 22. *monica*  
 23. *monica*  
 24. *monica*  
 25. *monica*  
 26. *monica*  
 27. *monica*  
 28. *monica*  
 29. *monica*  
 30. *monica*  
 31. *monica*  
 32. *monica*  
 33. *monica*  
 34. *monica*  
 35. *monica*  
 36. *monica*  
 37. *monica*  
 38. *monica*  
 39. *monica*  
 40. *monica*  
 41. *monica*  
 42. *monica*  
 43. *monica*  
 44. *monica*  
 45. *monica*  
 46. *monica*  
 47. *monica*  
 48. *monica*  
 49. *monica*  
 50. *monica*  
 51. *monica*  
 52. *monica*  
 53. *monica*  
 54. *monica*  
 55. *monica*  
 56. *monica*  
 57. *monica*  
 58. *monica*  
 59. *monica*  
 60. *monica*  
 61. *monica*  
 62. *monica*  
 63. *monica*  
 64. *monica*  
 65. *monica*  
 66. *monica*  
 67. *monica*  
 68. *monica*  
 69. *monica*  
 70. *monica*  
 71. *monica*  
 72. *monica*  
 73. *monica*  
 74. *monica*  
 75. *monica*  
 76. *monica*  
 77. *monica*  
 78. *monica*  
 79. *monica*  
 80. *monica*  
 81. *monica*  
 82. *monica*  
 83. *monica*  
 84. *monica*  
 85. *monica*  
 86. *monica*  
 87. *monica*  
 88. *monica*  
 89. *monica*  
 90. *monica*  
 91. *monica*  
 92. *monica*  
 93. *monica*  
 94. *monica*  
 95. *monica*  
 96. *monica*  
 97. *monica*  
 98. *monica*  
 99. *monica*  
 100. *monica*

• will  
for + 5  
minutes

urine may inform him. It is also caused by  
substances which irritate the Præputia as the  
acid matter of dysentery, acrimony, acrid  
ferments, miasmata, poisons, congestion, some la-  
-tente &c and is, when it arises from these causes,  
called idiopathic Tetanus; but, when it arises  
from a scratch, puncture, laceration, or  
gun shot or other injuries, it is called sym-  
ptomatic or traumatic Tetanus. This distinction is  
well enough, as will appear when we come to  
the treatment of the disease, which is some-  
what different in the two cases, but they are  
probably both symptomatic of irritation in  
different parts of the bodies, but which in both  
cases becomes transmitted to the same place,  
which then becomes the seat of disease.

### Pathology

I will dwell but a short time on this  
part of the disease, conscious that I cannot  
advance any thing new or interesting reple

to get  
which  
in, of the  
I am  
and was  
between,  
medical  
studies  
to my  
in which  
as  
and  
not. the  
you are  
it was  
the art of  
fishing  
doubtless  
into the  
then  
as to the  
many

ting it but will merely make some remarks which its analogy with other diseases has suggested to me. Many of the symptoms, such as trismus, spasm, and other convulsive diseases, found here bearing a close analogy to the sometimes intermittent, induced me, in the early part of my medical studies, to look upon them as being diseases of a milder character than Tetanus, but arising probably from the same part being affected in all cases, though in different degrees according to the disease produced. The causes of those diseases also in many cases being the same, gave additional support to my opinion; but it was not, till I found that Doctor Chapman and his Therapeutics had promulgated the same opinion and instituted a plan of treatment accordingly, that I was incited more closely to examine into the causes, and nature of those diseases. Many of those causes, which we have enumerated as inducing tetanus, we may here record as inducing many varieties of, including those diseases of which it

The word  
 has been  
 used  
 in the  
 same  
 way  
 as to  
 give  
 an idea  
 of the  
 nature  
 of the  
 thing  
 which  
 is being  
 described.  
 It is  
 not  
 meant  
 to  
 imply  
 that  
 the  
 thing  
 is  
 exactly  
 like  
 the  
 thing  
 which  
 is  
 being  
 compared  
 to it.  
 It is  
 only  
 meant  
 to  
 show  
 that  
 the  
 thing  
 is  
 of  
 the  
 same  
 kind  
 or  
 class  
 as  
 the  
 thing  
 which  
 is  
 being  
 compared  
 to it.  
 This  
 is  
 the  
 sense  
 in  
 which  
 the  
 word  
 is  
 used  
 in  
 the  
 Bible.  
 It is  
 not  
 meant  
 to  
 imply  
 that  
 the  
 thing  
 is  
 exactly  
 like  
 the  
 thing  
 which  
 is  
 being  
 compared  
 to it.  
 It is  
 only  
 meant  
 to  
 show  
 that  
 the  
 thing  
 is  
 of  
 the  
 same  
 kind  
 or  
 class  
 as  
 the  
 thing  
 which  
 is  
 being  
 compared  
 to it.  
 This  
 is  
 the  
 sense  
 in  
 which  
 the  
 word  
 is  
 used  
 in  
 the  
 Bible.



be considered an aggravated state, thus epilepsy has been caused by acrid matters, or indigestion in the stomach, by worms, constipation &c. The same causes have also been considered as giving rise to Hysteria. *Crura Pectorum* and *Chorea San-  
guinea* are also caused by irritants in the alimentary canal; a disease also, occasionally, arises from something causing irritation in the meninges, which so nearly resembles that arising from the bites of rabid animals, as to be with difficulty distinguished from it. These facts seem to prove very clearly, that there is a very close, and intimate connection, between causes, in opposite affections, and primary irritation in the stomach, and bowels. But these facts strengthen the opinion that irritation, though remote, produces tetanus, it does not prove it to be the immediate seat of the disease. I am, however, in circumstances which I must proceed to notice, induced to believe, that the causes, and phenomena in tetanus, produce their effects through the me-

1.  $\frac{1}{n} \sum_{i=1}^n x_i = \bar{x}$   
 2.  $\frac{1}{n} \sum_{i=1}^n x_i^2 = \overline{x^2}$   
 3.  $\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x}) = 0$   
 4.  $\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^2 = \overline{x^2} - \bar{x}^2$   
 5.  $\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^3 = 0$   
 6.  $\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^4 = \overline{x^4} - 4\bar{x}\overline{x^3} + 6\bar{x}^2\overline{x^2} - 3\bar{x}^4$   
 7.  $\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^5 = 0$   
 8.  $\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^6 = \overline{x^6} - 6\bar{x}\overline{x^5} + 15\bar{x}^2\overline{x^4} - 20\bar{x}^3\overline{x^3} + 15\bar{x}^4\overline{x^2} - 6\bar{x}^5\bar{x}$   
 9.  $\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^7 = 0$   
 10.  $\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^8 = \overline{x^8} - 8\bar{x}\overline{x^7} + 28\bar{x}^2\overline{x^6} - 56\bar{x}^3\overline{x^5} + 35\bar{x}^4\overline{x^4} - 56\bar{x}^5\overline{x^3} + 28\bar{x}^6\overline{x^2} - 8\bar{x}^7\bar{x}$

been, & in Government common, as the sci. in &  
 in various of the brain and spinal marrow. The  
 spinal is large, large, also in the experiments  
 and observations of Galvani & Galvani in inducing  
 in the section of the nervous system & in the  
 nervous system. He is, that with chemical, neu-  
 ro-muscular stimulus, applied to the nervous sys-  
 tem, excite the muscles of voluntary motion,  
 and that they are applied near the brain in  
 cases of the brain and spinal marrow. A  
 sort of stimulus may, therefore, be created in the  
 central portion of the nervous system, as it  
 may be called, central organ of perception  
 and action, and which is united, from the  
 experiments of some ancient writers, to be the modu-  
 la in the brain, which, according to the experiments  
 of various Sci., is composed of portions of mat-  
 ter which seem in a manner distinct from  
 each other, each one exercising a distinct set  
 of organs. "imitation" of the upper portion of the  
 inferior Spinal cord, various of cause & connection



The voluntary muscles, and imitation of the  
action of, and the upper part of the spinal  
nerves, receive, from the muscles, excita-  
tion of the voice, and, as a rule, the position  
of the spine, in the above, that in order  
to the production of convulsive, or spasmodic ac-  
tion of the muscles that this part of the nervous  
system must be irritated, and this may be  
either primary, or secondary. In cases of  
mild irritation of the stomach the irritation may  
be transmitted to the medulla, through the me-  
dium of the sympathetic and parasympathetic,  
the latter of which originates there. It would  
seem therefore, that in tetanus, it is the upper  
portion which is most affected, while in the  
diphtheria the lower portion is most affected,  
so it is the respiratory muscles which are under  
influence in the latter case, and the voluntary  
muscles in the former. In tetanus which  
occurs in tetanus, as the expression of the  
in case of infection of the throat, such as the small

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

1848

causes a "tête morte" &c, sometimes occurring &  
 fatal to itself, so as to cause immediate death  
 by causing the water and producing suffocation,  
 and knowing, that, in all mortal cases of disease,  
 death takes place from an influence extending  
 over the respiratory system, inance us to believe  
 that the respiratory nerves are considerably  
 affected in this disease. Intra-ventricular of the  
 nerves which have been advanced by different  
 writers on the pathology of this disease, I will  
 not conclude mine, conscious that if there  
 is any thing of importance in what I have  
 written, the merit is due to those whose la-  
 bours have thrown light on the subject.  
 My own opinions, are those of one, who is  
 far from possessing an accurate knowledge  
 of all that is necessary to enable him to  
 lay down the true pathology of Tetanus.  
 In forming a prognosis, we are to be influ-  
 enced by several circumstances, such as the  
 cause and violence of the attack, the length

I have

the

the

the

the

the

the

the

the

the

the

the

the

the

the

the

the

the

the

the

the

the

the



of time it has existed, and the present situation  
of the patient. Tetanus from wounds is more  
fatal than the Sympathic species, and the  
symptoms said to be favorable, & less fatal to be  
so, such as white tongue, copious discharge of  
serous &c. & clammy moisture with cold  
limbs, is said to portend death. It is said to  
be favorable & in the further dry, and, still  
more so, the longer the disease continues.

### Prophylaxis

Amongst the diseases caused in such cases, preven-  
ted in the young<sup>stage</sup> man than, but on account of  
the causes, including it, more remarkably occurring  
than disease, and at times occurring, and  
an indication to the system, sometimes, as it  
passes, it is more and, still the patient  
is sometimes able. To treat these, it should be  
in the first instance, as the case of wounds, and  
in many cases the disease of tetanus, when a com-  
mon condition, more important than, & plan

page 2

...

...

...

...

...

...

...

...

...

...

...

...

...

...

...

...

...

...

...

...

...

...

...



The first  
the second  
the third  
the fourth  
the fifth  
the sixth  
the seventh  
the eighth  
the ninth  
the tenth  
the eleventh  
the twelfth  
the thirteenth  
the fourteenth  
the fifteenth  
the sixteenth  
the seventeenth  
the eighteenth  
the nineteenth  
the twentieth  
the twenty-first  
the twenty-second  
the twenty-third  
the twenty-fourth  
the twenty-fifth  
the twenty-sixth  
the twenty-seventh  
the twenty-eighth  
the twenty-ninth  
the thirtieth  
the thirty-first  
the thirty-second  
the thirty-third  
the thirty-fourth  
the thirty-fifth  
the thirty-sixth  
the thirty-seventh  
the thirty-eighth  
the thirty-ninth  
the fortieth  
the forty-first  
the forty-second  
the forty-third  
the forty-fourth  
the forty-fifth  
the forty-sixth  
the forty-seventh  
the forty-eighth  
the forty-ninth  
the fiftieth  
the fifty-first  
the fifty-second  
the fifty-third  
the fifty-fourth  
the fifty-fifth  
the fifty-sixth  
the fifty-seventh  
the fifty-eighth  
the fifty-ninth  
the sixtieth  
the sixty-first  
the sixty-second  
the sixty-third  
the sixty-fourth  
the sixty-fifth  
the sixty-sixth  
the sixty-seventh  
the sixty-eighth  
the sixty-ninth  
the seventieth  
the seventy-first  
the seventy-second  
the seventy-third  
the seventy-fourth  
the seventy-fifth  
the seventy-sixth  
the seventy-seventh  
the seventy-eighth  
the seventy-ninth  
the eightieth  
the eighty-first  
the eighty-second  
the eighty-third  
the eighty-fourth  
the eighty-fifth  
the eighty-sixth  
the eighty-seventh  
the eighty-eighth  
the eighty-ninth  
the ninetieth  
the ninety-first  
the ninety-second  
the ninety-third  
the ninety-fourth  
the ninety-fifth  
the ninety-sixth  
the ninety-seventh  
the ninety-eighth  
the ninety-ninth  
the hundredth

this disease is produced by venereal in the common  
way, and it is well known that, in some cases,  
the disease is produced by other venereal  
diseases. Besides removing the particular matter  
which is supposed to cause the disease,  
supposing the venereal system, or venereal, the venereal  
system is increasing attacks, will be found  
most striking in an object of much importance  
certain says, that gonorrhea cause costiveness  
induced, whether as a symptom of the disease or  
as the cause that is commonly used, it must  
be used to aggravate the disease, and, therefore, di-  
verses purges to be given, while dysplasia remains,  
and, certainly when it does not. It will be found,  
think, upon an attentive examination of the effects  
of many cases of gonorrhea reported by writers, that  
some of the venereal have been cured and the venereal  
system to be more or less dissipated, that, as  
the venereal system increases, the disease increases,  
and, therefore, cases of gonorrhea cured by purges  
to be cured by means, instead of substances,

vestige  
 party  
 summer  
 at by  
 new fl  
 -m, ca  
 In mil  
 common  
 since  
 with me  
 them,  
 their  
 back li  
 solid  
 as in  
 lower,  
 pens.  
 with  
 no in  
 in air  
 est 7

constipation, &c. and cured by purging, since  
pretty nearly their importance. Their propriety,  
as sometimes in tetanus, is still further confirm-  
ed by knowing, that they are nearly always  
successful in that spasmodic disease of chil-  
dren, called viscus nascentium, arising from  
the irritation produced by a retention of the me-  
conium. Mosely says that Barre a French Phy-  
sician who practised at Lyons used purges  
with much success. Many others speak highly  
of them, and I think there is sufficient evidence  
of their utility in this disease alone, without  
speaking of its efficacy in those to which  
I hold it to be nearly allied, to warrant  
us in making trial of it. In Epilepsy, hysteria,  
scurvy, &c. &c. I do distinct the efficacy of  
purgers. To open the bowels active purgation would  
probably answer best, as they would soonest affect  
the liver. For this purpose might not the he-  
toric oil be a proper article, as it is prompt  
in its operation, and seems to exert a powerful  
influence

*[Faint handwritten notes, mostly illegible.]*



over the nerves. The whole is owing to a want of the  
 tonic, or stimulant strength, which should be given during  
 the whole course of the disease. I treated eight or  
 ten persons in and with a variety of medicines, but  
 nearly all were now towards the critical stage, and  
 the typhoid state of the stomach, which in many  
 cases does not seem to be affected by the most  
 powerful medicines. To be away, this typhoid state  
 is much more as it is susceptible to the impression  
 of medicines, excited are eminently generated, and  
 they often by their powerful impression on the sys-  
 tem bring again, various difficulties of breathing,  
 and by their more general influence assist mate-  
 rially in transmuting the typhoid excitement, while  
 in phlogistic affections, arising from irritation in  
 the canal, they have proved peculiarly useful.  
 In typhoid arising from cold they would doubt  
 less have highly important, but in this case the  
 internal use of Stimulants, as we have already seen  
 them to be, and the use of the warm bath and  
 other means which will produce diaphoresis,

walk  
in house  
around  
in front  
from room  
to kitchen  
out west  
night to  
assess  
for with  
motion  
nature  
the & so  
that I  
in Mexico  
- as  
person  
accompanied  
is paper  
at night

could possibly be a better plan, as the pain in  
 his liver is small, the skin cool, &c. with this plan  
 we will leave the system to reach, and may then  
 use purges and such other means as we may  
 deem necessary. Dr. Keen says he has cured some  
 inebriant cases of *Trichinosis* by emetics. These medicines  
 will not act at all times, and in such cases we  
 might try an emulsion of Turpentine & other oils,  
 as used by Hippocrates & used in case of locked  
 jaw with success. What would be the effects of an  
 injection of an infusion of *Trichinosis* in the  
 muscles? The blood sitting as a tumor, in the  
 liver would say something. This has not been much  
 talked by physicians though a few years ago it  
 Dr. Mercey says the *Trichinosis* is a disease in the  
 muscles & is treated with great confidence in  
 purges. Dr. Keen said it was much more  
 recommended it, and most certainly admit that it  
 is proper where there are attempts. What medicine can  
 be used with this in the present state of the  
 system? The system is in a state of *Trichinosis*, and jaw

3. & other  
being co  
by copy  
of Quin  
for success  
the h in  
to Larrey  
posed in  
of the mos  
by holer  
adds use  
of the mu  
an Opin  
I all the  
the doing  
for all  
numerous  
that it h  
circumstance

and others of the nature? Two cases of Trismus coming within my own knowledge were treated by copious venesection, aided by small portions of Opium with prompt and almost unlooked for success. Bleeding even to syncope might I think in violent cases be tried, as it has according to Larrey terminated the disease when it happened in amputation. That blood-letting is one of the most powerful antispasmodics is a fact supported by both reason and experience. The remedies used to overcome the diseased excitement of the muscles by exciting another superior to it are Opium, Wine, Mercury &c. of some of these I will treat and first of Opium. The cures from this drug are said to be more numerous than from all others combined. That it has cured in numerous instances, we will all readily believe. That it has often failed when used under circumstances favourable for its exhibition we are

forced to  
 in a  
 will as  
 the system  
 in a state  
 precede the  
 using large  
 position on  
 a table and  
 to all m  
 reverence  
 cases of h  
 could be  
 to be m  
 How sh  
 and others  
 much of  
 but that  
 possible

forced to admit. Opium may be given in this disease in doses sufficient to astonish us, and yet it will at times, produce no evident effects on the system. In such cases the stomach must be in a state of great torpor. Should not an emetic precede the Opium here? Many are opposed to using large doses when small ones make no impression on the system. When we exhibit this article and it allays the spasm, its use should by all means, be continued, so as to prevent its recurrence. Incipient and even confirmed cases of this disease are no doubt frequently cured by Opium alone. Its powers are said to be much increased by a combination with other substances, as alkalies, Camphor, Wine and others. This drug is no doubt entitled to much of the praise lavished on it by writers but that there are cases to which it is not applicable will I hope be admitted.

[illegible]



Its external use in the form of plaster applied  
 to the jaws has been much praised in France.  
 Bark and Wine have been used separately,  
 and in combination, and are said to have  
 proved useful in some cases when used in  
 large doses. about the quantity of Wine to be give  
 on at once we cannot speak, as it will depend on  
 the severity of the attack and other circumstances.  
 For a long time the use of the warm bath was  
 commended highly, but is now pretty gene-  
 rally made to give way to the cold bathing. Cullen  
 speaks highly of this remedy and says it is now  
 used over the whole of the West Indies. Bar-  
 there a french physician who practised long since  
 placed great reliance on it. The common mode of ap-  
 plying cold water is to throw it upon the patient,  
 or plunge him into it, then lay him in blankets,  
 administer Wine, and put him to bed. Cold  
 water, in many diseases, is a powerful agent as  
 it arouses the dormant susceptibility of the system,  
 removes spasmodic contraction of the extreme ves-

[illegible]

and restores a healthy action in the capillaries; whether it is a remedy of decided efficacy in Tetanus let the writings of those who have tried it attest. Hippocrates speaks well of it. Mercury, used so as to effect salivation, has been much extolled by some while others complain of its inefficacy on account of the difficulty of putting the system under its influence. As it appears that the symptoms have given way to a salivation, would it not be proper, various using careful purges to remove the contents of the bowels, to effect a salivation in the manner it was produced by the salivator & proceed with copious sublimation. Numerous are the remedies which have been tried in this disease to overcome them would be useless. The Spitz Sanguine & S. d. unis-si are of the number. So seldom is it that practitioners succeed twice with the same remedy, that we should, in a case of this kind, fly from one to another, as they proved unavailing, till we had made trial of all that hold out a prospect of relief — — —



### Traumatic Tetanus

The first object now is to remove the irritating cause producing the disease, & practice, or to cut off the communication between them and the wound. When Tetanus proceeds from small wounds, punctures, or incisions, and causes of like nature, we should make free incisions into the part, if this can be done with safety, and then applying to it irritating or caustic substances as Cantharides, Turpentine, Nitrate of Silver &c. Dr Rush says, he never yet knew a case to continue, when the spirits of Turpentine was applied in time. Some use caustic to the wound and then poultice it to obtain suppuration. Holding the part, if on any of the extremities, in hot ley, after incisions have been made, is a practice much followed, in the country, and with great success, Opium being given internally at the same time. If the wounded part be a finger or toe it might be amputated. Opium, Musk, Castor, Camphor and Turpentine, are among the internal remedies used

The train  
kept a  
section of  
pieces. 9  
Western  
then from  
the affilia  
whole co  
abundant  
with wh  
said to  
retired  
to prove  
with ma  
campaign  
see by s  
see to m  
with can  
-ed, and  
-ed and  
-ed. 2 D  
-ed

in traumatic Tetanus. The bowels should I think be kept in a laxative state if possible, and bleedings occasionally be resorted to, as in the other species. Opium should be given freely sometimes. Blisters to the spine, from top to bottom, have been found very beneficial, but far better is the application of caustic potash along the whole course of the spinal column. This practice is pursued by Doctor Hartshorn of this city with whom I believe it originated. It is said to be a very effectual practice, and should be tried in all cases of tetanus, when likely to prove obstinate. Larrey who had to contend with many cases of this disease during his campaigns, says, that of all the remedies proposed by skilful practitioners experience has proved to me, that extract of Opium, combined with camphor, and purified nitrate of potash, and dissolved in a small quantity of emulsion, and given in small doses, acts most favourably - 2<sup>d</sup> That amputation performed at a proper time at least he has the credit of first using it in the United States

time is the  
it proceeds  
time might  
pursue by  
fear of the  
to only the  
professors  
ground by  
and a rule  
by to in  
patient is  
he sugg  
obligations  
ground an  
experience  
much relat  
The cause  
the process



time is the most certain means of arresting tetanus when it proceeds from a wound on the extremities. Much time might be taken up in mentioning the plans pursued by different practitioners who are loud in praise of them, but I shall pass them by and mention only, that followed by our highly distinguished professor Doctor Physick. His practice is to administer Opium by the rectum largely and at short intervals and rub quantities of mercurial ointment over the body to induce salivation when this is effected the patient is considered in a favourable way. I would here suggest the propriety of making use of fumigations to assist in effecting the salivation Opium and Mercury may, since supported by such experience, be considered as remedies on which much reliance may be placed in Tetanus. The caustic potash should also stand among the foremost of our remedies

L. L. H.

739